codex alimentarius commission

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WORLD HEALTH ORGANIZATION

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CX 5/100 **CL 2003/38-FJ**
December 2003

TO: Codex Contact Points
Interested International Organizations

FROM: Secretary, Codex Alimentarius Commission,
Joint FAO/WHO Food Standards Programme
FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy

SUBJECT: **REQUEST FOR COMMENTS AT:**

a) STEP 6 - DRAFT MINIMUM BRIX LEVELS FOR RECONSTITUTED JUICES AND RECONSTITUTED PURÉES AND MINIMUM JUICE AND/OR PURÉE CONTENT FOR FRUIT NECTARS (% V/V) - grape, guava, mandarine/tangerine, mango, passion fruit and tamarind (Indian date) juices,

b) STEP 3 - PROPOSED DRAFT MINIMUM BRIX LEVELS FOR RECONSTITUTED JUICES AND RECONSTITUTED PURÉES AND MINIMUM JUICE AND/OR PURÉE CONTENT FOR FRUIT NECTARS (% V/V) - lemon, lime, orange and pineapple juices

DEADLINE: **31 July 2004**

COMMENTS: **To:**

Secretary, Codex Alimentarius Commission
Joint FAO/WHO Food Standards Programme
FAO
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E-mail: codex@fao.org (***preferably***)

BACKGROUND

3RD SESSION OF THE AD HOC CODEX INTERGOVERNMENTAL TASK FORCE ON FRUIT AND VEGETABLE JUICES (Salvador (Bahia), Brazil, 6 – 10 May 2003)

Minimum Brix Levels for Directly Expressed Juices[1]

1. The 3rd Session of the Ad Hoc Codex Intergovernmental Task Force on Fruit and Vegetable Juices had an exchange on views on the need to keep the table on Minimum Brix Levels for Directly Expressed Fruit Juices due to the difficulties in determining appropriate minimum Brix levels in single strength fruit juices. Some delegations stated that the minimum Brix level for single strength juice was a self-limiting problem as it was regulated by market demands and therefore, there was no need to address this matter in an international Standard. The Delegation of Greece, speaking on behalf of the Member States of the European Union present at the Session, agreed in principle with the deletion of the Table while indicating that there might be a need to come back on this matter some time in the future to discuss the addition of water to this type of juices. In view of this, the Task Force agreed to delete the Table on Minimum Brix Levels for Directly Expressed Juices.

[1] ALINORM 03/39A, paras. 79-80.

Minimum Brix Levels for Reconstituted Juices and Reconstituted Purées and Minimum Juice and/or Purée Content for Fruit Nectars[2]

2. The 3rd Session of the Task Force adopted Option 1[3] as its methodology to develop average Brix levels representing world-wide production of fruit juices. It was noted that this methodology applied only to the determination of Brix levels for those fruits for which it was not possible to establish a level at previous sessions of the Task Force. It was further noted that this methodology was a tool to facilitate the Task Force to establish minimum Brix levels nor the methodology to set up the level.

3. Due to insufficient international diversity of data, the Task Force was unable to set up a final minimum Brix level for grape, guava, mandarine/tangerine, mango, passion fruit and tamarind (Indian date) juices. In view of this, it agreed to consider these values as provisional and to discuss them further at its next Session. In addition, the Task Force could not reach consensus on a provisional minimum Brix level for orange juice nor to establish any minimum Brix levels for lemon, lime and pineapple juices. Consequently, it decided to defer the discussion on minimum Brix levels for lemon, lime, orange and pineapple juices to the next session of the Task Force.

4. As a result of the above discussion, the Task Force decided that those fruit juices for which an agreed provisional minimum Brix level[4] was established should be placed separately and forwarded to the Codex Alimentarius Commission for preliminary adoption at Step 5. The Task Force also decided that those fruit juices for which no minimum Brix level[5] was established should be also placed separately for circulation, comments at Step 3 and further consideration at the next Session of the Task Force.

26TH SESSION OF THE CODEX ALIMENTARIUS COMMISSION (Rome, Italy, 30 June – 7 July 2003)

5. The 26th Session of the Codex Alimentarius Commission adopted the *proposed draft Minimum Brix Levels for Reconstituted Juices and Reconstituted Purées and Minimum Juice and/or Purée Content for Fruit Nectars (% v/v) – grape, guava, mandarine/tangerine, mango, passion fruit and tamarind (Indian date) juices* at Step 5. In taking this decision, the Commission agreed that further comments were necessary for the development of the Brix levels for these six important fruit juices[6].

4TH (NEXT) SESSION OF THE AD HOC CODEX INTERGOVERNMENTAL TASK FORCE ON FRUIT AND VEGETABLE JUICES

6. The next 4th Session of the Task Force will be finalizing minimum Brix levels for reconstituted juice and reconstituted purée for certain fruit juices and minimum juice and/or purée contents for certain fruit nectars (% v/v) (see para. 3 above) in order to complete the work assigned to it by the 23rd Session of the Codex Alimentarius Commission[7]. In order to facilitate this task, governments and interested international organizations with Observer status in the Codex Alimentarius Commission are invited to provide data based on the methodology adopted at the 3rd Session of the Task Force (Option 1) and to fill the attached Brix Calculation Form which should be sent it back to the Codex Secretariat by 31 July 2004. The data submitted in response to this Circular Letter will be used by the next Session of the Task Force as a reference for the establishment of Brix levels for each of the remaining fruit juice.

7. For ease of reference, Appendices III and IV of ALINORM 03/39A (Report of the 3rd Session of the ad Hoc Codex Intergovernmental Task Force on Fruit and Vegetable Juices) containing the draft (Step 6) and proposed draft (Step 3) minimum Brix levels for reconstituted juices and reconstituted purées and minimum juice and/or purée content for fruit nectars (% v/v) are reproduced hereafter as Annexes I and II respectively. In addition, Option 1, the Brix Calculation Form and an example of the Brix calculation are reproduced in Annex III to this document.

8. Governments and interested international organizations with Observer status in the Codex Alimentarius Commission are invited to submit data as regards minimum Brix levels for reconstituted juice and reconstituted purée and minimum juice and/or purée contents for fruit nectars (% v/v) **no later than 31 July 2004** as indicated above.

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2 ALINORM 03/39A, paras. 81-85.
3 The different options to evaluate Brix data for reconstituted fruit juices are contained in CL 2003/2-FJ.
4 ALINORM 03/39 and Appendix III.
5 ALINORM 03/39 and Appendix IV.
6 ALINORM 03/41, para. 89 and Appendix VI.
7 ALINORM 99/37, para. 221.

ANNEX I

Draft Minimum Brix Levels for Reconstituted Juices and Reconstituted Purées and Minimum Juice and/or Purée Content for Fruit Nectars (% v/v)

(AT STEP 6)

Fruit's Common Name	Botanical Name	Minimum Brix Level for Reconstituted Fruit Juices and reconstituted purée	Minimum Juice and/or Purée Content (% v/v) for Fruit Nectars
Grape	Vitis *Vinifera* L. or *hybrids thereof* Vitis *Labrusca* or *hybrids thereof*	[16.0]	(*)[1]
Guava	*Psidium guajava* L.	[8.8]	25.0
Mandarine/Tangerine	*Citrus reticulata* Blanca	[11.8][2]	50.0
Mango	*Mangifera indica* L	[15.1]	25.0
Passionfruit	*Pasiflora edulis Sims. f. edulus Passiflora edulis Sims. f. Flavicarpa O. Def.*	[13.8][2]	25.0
Tamarind (Indian date)	*Tamarindus indica*	[13.0]	Adequate content to reach a minimum acidity of 0.5

1 No data currently available.

2 At 20°C, acid corrected.

ANNEX II

Proposed Draft Minimum Brix Levels for Reconstituted Juices and Reconstituted Purées and Minimum Juice and/or Purée Content for Fruit Nectars (% v/v)

(AT STEP 3)

Fruit's Common Name	Botanical Name	Minimum Brix Level for Reconstituted Fruit Juices and Reconstituted Purées	Minimum Juice and/or Purée Content (% v/v) for Fruit Nectars
Lemon	*Citrus limon* (L.) Burm. *f. Citrus limonum* Rissa	(*)[1]	(*)[1]
Lime	*Citrus aurantifolia* (Christm.)	(*)[1]	(*)[1]
Orange	*Citrus sinensis (L.)*	(*)[1]	50.0
Pineapple	*Ananas comosus (L.) Merrill Ananas sativis L. Schult. f.*	(*)[1]	40.0

[1] No data currently available.

ANNEX III

OPTION 1

Rationale: To obtain a Brix number for reconstitution of juice concentrates that, to the extent possible, reflects the actual world mean Brix of the fruit and, thereby, assures that consumers, on the average, are not getting a net water addition to reconstituted fruit juice and that manufacturers, on the average, are not losing solids because of an excessively high Brix number for reconstituted fruit juice.

Method: Employ the following process to determine fruit juice Brix values for those juices for which consensus has not yet been reached.

A. Countries should submit Brix data for individual juices for a minimum of one but preferably three growing seasons. They should include a mean Brix for the growing season that takes into account how much tonnage is actually produced at the various Brix levels throughout the normal Brix range during the growing season, e.g. multiply tonnage by Brix for each week during the season, sum these values and divide by total tonnage.

B. Provide accompanying information on fruit juice production tonnage for each season for each fruit variety.

C. Calculate the Brix value for each fruit juice by each of the following methods.

1. Determine a weighted worldwide average Brix value for each juice by multiplying the individual country mean Brix values by the appropriate tonnage figures, summing these values, then dividing the sum of the Brix/tonnage values by the total tonnage.

2. Proceed as in (1), except, for each country that produces less than 10% of the world tonnage for a specific fruit juice, the tonnage value used in the calculation for that country for that fruit juice would be multiplied by 1.5.

3. Proceed as in (1) above except:

i. For each country that produces more than 5% but less than 10% of the world tonnage for a specific fruit juice, the tonnage value used in the calculation for that country for that fruit juice would be multiplied by 1.5

ii. For each country that produces less than 5% of the world tonnage for a specific fruit juice, the tonnage value used in the calculation for that country for that fruit juice would be multiplied by 2.0.

D. Evaluate the values obtained from the above calculation methods and determine a consensus Brix value for each fruit juice.

Brix Calculation Form

Only for the following fruits: Grape, Guava, Mandarine/Tangerine, Mango, Passion Fruit, Tamarind, Lemon, Lime, Orange and Pineapple

Country:

Year or range of years: | **Fruit:**

	Source A	Source B	Source C	Source D	Other sources		Country total	
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[X]	[Y]
Brix	Quant.	Quant.	Quant.	Quant.	Quant.	Quant.	[2]+[3]+[4]+[5][6]+[7]+[n]	[1]*[X]
							0	0
							0	0
							0	0
							0	0
							0	0
							0	0
							0	0
							0	0
							0	0
							0	0
							0	0
						Sum	0	0
							Weighted Brix Average	**#DIV/0!**
							(Sum of [Y] / Sum of [X]	

Notes:

1) Prepare one table for each fruit

2) Enter as many lines for Brix values as necessary (at one decimal point intervals)

3) Sources may be processing plants or regional data in a country

4) Indicate the unit of measure of the quantities (preferably in tons)

5) Data from different years may be added inside each cell for each line of Brix values

6) For the consolidation with data from other countries all the numbers and information highlighted will be taken into account

Brix Calculation Form - Example -

Only for the following fruits: Grape, Guava, Mandarine/Tangerine, Mango, Passion Fruit, Tamarind, Lemon, Lime, Orange and Pineapple

Country: X

Year or range of years: 19XX-19XX | **Fruit: x**

	Source A	Source B	Source C	Source D	Other sources		Country total	
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[X]	[Y]
Brix	Quant.	Quant.	Quant.	Quant.	Quant.	Quant.	[2]+[3]+[4]+[5][6]+[7]+[n]	[1]*[X]
10.1	100	120					220	2222
10.3	200	110		800			1110	11433
10.5	300	130		600			1030	10815
10.8	400	200	1000	350			1950	21060
10.9	1000	800	350	600	600		3350	36515
11.2	800	1000	420		350		2570	28784
11.4	300	500			400	600	1800	20520
11.5	500	450			250	700	1900	21850
11.8	200	300				800	1300	15340
12.1	110	150				450	710	8591
12.4	120	100				400	620	7688
						Sum	16560	184818
							Weighted Brix Average	11.2
							(Sum of [Y] / Sum of [X]	

Notes:

1) Prepare one table for each fruit

2) Enter as many lines for Brix values as necessary (at one decimal point intervals)

3) Sources may be processing plants or regional data in a country

4) Indicate the unit of measure of the quantities (preferably in tons)

5) Data from different years may be added inside each cell for each line of Brix values

6) For the consolidation with data from other countries all the numbers and information highlighted will be taken into account